WHAT IS CLAIMED IS:

1. A system for monitoring a freight container comprising:

    means for generating a resonant spectrum representative of an initial condition of internal surfaces and contents of the freight container; and

    means for saving said resonant spectrum for future comparison purposes.

2. A system according to claim 1, wherein said resonant spectrum generating means comprises means for generating an electromagnetic signal in a desired frequency range, means for outputting the generated signal to a bridge, said bridge transmitting said signal through an antenna, and said antenna transmitting the generated signal to an internal space of said freight container and receiving a returned signal from said internal space of said freight container.

3. A system according to claim 2, further comprising means for controlling signal transmission and reception and data processing and storing, means for converting said returned signal from an analog signal to a digital signal, and means for forming said resonant spectrum from said digital signal.

4. A system according to claim 2, wherein said signal generating means comprises means for generating a signal in the frequency range of from 10 MHz to 10 GHz.

5. A system for monitoring a freight container according to claim 1, further comprising:

means for generating a loading diagram representative of initial contents of the freight container; and

means for saving said loading diagram for future comparison purposes.

6. A system for monitoring a freight container according to claim 5, wherein said loading diagram generating means comprises means for identifying the contents of said freight container using an electromagnetic signal.

7. A system according to claim 6, wherein said contents identifying means comprises means for generating an electromagnetic signal in a desired frequency range, means for outputting said electromagnetic signal, means for transmitting the generated signal to an internal space of said freight container, means for receiving a returned signal from said internal space of said freight container, means for receiving

the returned signal and coupling the source signal and means for inputting said returned signal and said source signal.

8. A system according to claim 7, further comprising means for controlling signal transmission and reception and data processing and storing, means for converting said input signal from an analog signal to a digital signal, and means for forming said loading diagram from said digital signal.

9. A system according to claim 6, wherein said signal generating means comprises means for generating an electromagnetic signal in the frequency range of from 10 MHz to 100 GHz.

10. A system for monitoring a freight container according to claim 1, further comprises means for detecting shifting of the contents of said freight container.

11. A system for monitoring a freight container according to claim 10, wherein said shifting detection means comprises:

means for generating a polarity configuration representative of contents of the freight container; and

means for saving said polarity configuration for future comparison purposes.

12. A system for monitoring a freight container according to claim 11, wherein said polarity configuration generating means comprises means for generating an electromagnetic signal in a frequency range and a special polarization mode, means for outputting said electromagnetic signal, means for transmitting said electromagnetic signal to an internal space of said freight container, means for receiving a returned signal from said internal space of said freight container, and means for inputting said returned signal.

13. A system according to claim 12, further comprising means for controlling signal transmission and reception and data processing and storing, means for converting said returned signal from an analog signal to a digital signal, and means for forming said polarity configuration from said digital signal.

14. A system according to claim 12, wherein said signal generating means comprises means for generating an electromagnetic signal in the frequency range of from 10 MHz to 100 GHz and in a fixed direction polarized mode.

15. A system for monitoring a freight container according to claim 1, further comprising means for detecting a real-time position of the freight container.

16. A system for monitoring a freight container according to claim 1, further comprising means for RF communication with a monitoring center in a remote location.

17. A system for monitoring a freight container according to claim 1, further comprising means for sensing sensitive materials.

18. A system for monitoring a freight container comprising:

   means for identifying contents of the freight container to enable comparison with the contents declared on a document list and for detecting possible sensitive materials in the contents on board the freight container;

   means for real-time monitoring boundary walls of the freight container for detecting possible tampering with the freight container;

   means for real-time monitoring of a layout configuration for the contents of the freight container to detect at least one of possible contents dangerous shifting and human smuggling; and

means for performing real-time communicating with a monitoring center to red flag any problem freight container for targeted secondary inspection, to easy pass a normal freight container, and to request random inspection.

19. A method for monitoring a freight container comprising the steps of:

generating a first resonant spectrum representative of an initial condition of internal surfaces and contents of the freight container; and

saving said resonant spectrum for future comparison purposes.

20. A method according to claim 19, further comprising:

generating a second resonant spectrum representative of a condition of said internal surfaces and contents of the freight container; and

comparing said second resonant spectrum with said first resonant spectrum to determine whether there has been any change in said condition of said internal surfaces and contents of said freight container.

21. A method according to claim 19, further comprising identifying the contents of said freight container using electromagnetic impulse signals to determine whether there are any sensitive materials in said contents and to determine whether said contents conform to what were declared on the document.

22. A method according to claim 21, further comprising generating an initial loading diagram of said contents of said freight container by analyzing a returned signal which is received from an internal space of said freight container.

23. A method according to claim 21, further comprising generating a second loading diagram of said contents of said freight container and comparing said second loading diagram of said contents with said initial loading diagram of said contents to determine whether the contents of said freight container have changed in any respect.

24. A method according to claim 19, further comprising detecting whether the contents inside the freight container have shifted during transport.

25. A method according to claim 24, wherein said detecting step comprises generating an initial polarity configuration of the internal surfaces of said freight container by analyzing a

returned signal which is received from an internal space of said freight container.

26. A method according to claim 24, wherein said detecting step further comprises generating a second polarity configuration of said freight container, and comparing said initial polarity configuration with said second polarization configuration to determine whether said contents of said freight container have shifted during transport.

27. A method according to claim 19, further comprising sensing any sensitive material in the contents using special functional sensors.

28. A method according to claim 19, further comprising determining a real-time position for the freight container

29. A method according to claim 19, further comprising real-time communicating with a monitoring center to red flag any problem freight container for targeted secondary inspection, to easy pass a normal freight container, and to request random inspection.